

10/566941

SEQUENCE LISTING

<110> Dyer, Cheryl J.
Du, Fengxing
Grosz, Michael D.
Byatt, John C.

MAP20 Rev'd ACT/PTO 02 FEB 2006

<120> USE OF A SINGLE NUCLEOTIDE POLYMORPHISM IN THE CODING REGION OF
THE LEPTIN RECEPTOR GENE TO ENHANCE PORK PRODUCTION

<130> 11916.0058.PCUS02

<150> US. 60/553,582

<151> 2004-03-16

<150> U.S. 60/493,158

<151> 2003-08-07

<160> 44

<170> PatentIn version 3.3

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<213> Artificial Sequence

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<223> Synthetic nucleotide

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<220>

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<400> 2

ccttccctgc aatgttgtct

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<210> 3

<211> 773

<212> DNA

<213> Sus scrofa

<400> 3

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120

tgtatatatata tacactcaca tacatgtata tatatatatg tgagtgtata tatatatattta

180

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| tgatgtcaaa ttaatgggga aaataaaaatg tgaatttcta aaaaggggtg ctaaagagtg | 240 |
| gcattatctc taagggtata tgctccctct taagtataac actttggaca atggaagagc | 300 |
| tttgtattag gcactgtttg agcacttgga aagttaaata attattgttg aagactgcat | 360 |
| gttttaatct tagatacttc ctattnatgt cttagtcaaa atgattaatt gctttctat | 420 |
| gtgtctttta aatgtcctaa cagaatttat ttatgtgata actgcatttg acttggcata | 480 |
| tccaattact ccttggaaat ttaagttgtc ttgcattgcca ccaaatacaa catatgactt | 540 |
| cctcttgcct gctggaatct caaagaacac ttcaactttg aatggacatg atgaggcagt | 600 |
| tgttggaaacg gaacttaatt caagtggtac ctacttatca aacttatctt ctaaaacaac | 660 |
| tttccactgt tgctttgga gtgaggaaga taaaaactgc tctgtacatg cagacaacat | 720 |
| tgaggaaag gcatttgttt cagcagtaaa ttcccttagtt tttcaacaaa cag | 773 |

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| <211> 20 | |
| <212> DNA | |
| <213> Artificial Sequence | |
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| <220> | |
| <223> Synthetic nucleotide | |
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| <400> 4 | |
| gcactgtttg agcacttgga | 20 |
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| <210> 5 | |
| <211> 20 | |
| <212> DNA | |
| <213> Artificial Sequence | |
| | |
| <220> | |
| <223> Synthetic nucleotide | |
| | |
| <400> 5 | |
| ccttccctgc aatgttgtct | 20 |
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| <210> 6 | |
| <211> 25 | |
| <212> DNA | |
| <213> Artificial Sequence | |
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| <220> | |
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| <400> 6 | |
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<210> 7
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<220>
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<210> 8
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<212> DNA
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<220>
<223> Synthetic nucleotide

<400> 8
tggaaacg gaactt 16

<210> 9
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<212> DNA
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<220>
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<400> 9
tggaaatg gaactta 17

<210> 10
<211> 421
<212> DNA
<213> Sus scrofa

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<221> CDS
<222> (133)..(420)

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<222> (299)..(299)
<223> N = T or C

<220>
<221> misc_feature
<222> (310)..(310)
<223> N = T or A

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<222> (311)..(311)
<223> N = T or C

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aatgtcctaa ca gaa ttt att tat gtg ata act gca ttt gac ttg gca tat      171
          Glu Phe Ile Tyr Val Ile Thr Ala Phe Asp Leu Ala Tyr
          1           5           10

cca att act cct tgg aaa ttt aag ttg tct tgc atg cca cca aat aca      219
Pro Ile Thr Pro Trp Lys Phe Lys Leu Ser Cys Met Pro Pro Asn Thr
          15          20          25

aca tat gac ttc ctc ttg cct gct gga atc tca aag aac act tca act      267
Thr Tyr Asp Phe Leu Leu Pro Ala Gly Ile Ser Lys Asn Thr Ser Thr
          30          35          40          45

ttg aat gga cat gat gag gca gtt gtt gaa ang gaa ctt aat nna agt      315
Leu Asn Gly His Asp Glu Ala Val Val Glu Xaa Glu Leu Asn Xaa Ser
          50          55          60

ggc acc tac tta tca aac tta tct tct aaa aca act ttc cac tgt tgc      363
Gly Thr Tyr Leu Ser Asn Leu Ser Ser Lys Thr Thr Phe His Cys Cys
          65          70          75

ttt tgg agt gag gaa gat aaa aac tgc tct gta cat gca gac aac att      411
Phe Trp Ser Glu Asp Lys Asn Cys Ser Val His Ala Asp Asn Ile
          80          85          90

gca ggg aag g
Ala Gly Lys
          95

<210> 11
<211> 96
<212> PRT
<213> Sus scrofa

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<222> (56)..(56)
<223> The 'Xaa' at location 56 stands for Lys, Arg, Thr, or Met.

<220>
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<222> (60)..(60)
<223> The 'Xaa' at location 60 stands for Lys, Arg, Thr, Ile, Glu, Gly,
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<400> 11

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Pro Trp Lys Phe Lys Leu Ser Cys Met Pro Pro Asn Thr Thr Tyr Asp
20 25 30

Phe Leu Leu Pro Ala Gly Ile Ser Lys Asn Thr Ser Thr Leu Asn Gly
35 40 45

His Asp Glu Ala Val Val Glu Xaa Glu Leu Asn Xaa Ser Gly Thr Tyr
50 55 60

Leu Ser Asn Leu Ser Ser Lys Thr Thr Phe His Cys Cys Phe Trp Ser
65 70 75 80

Glu Glu Asp Lys Asn Cys Ser Val His Ala Asp Asn Ile Ala Gly Lys
85 90 95

<210> 12
<211> 4050
<212> DNA
<213> Sus scrofa

<400> 12
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atttatgtga taactgcatt tgacttggca tatccaatta ctccctggaa atttaagttg 120
tcctgcattc caccaaatac aacatatgac ttcccttgc ctgctggaaat ctcaaagaac 180
acttcaactt tgaatggaca ttagtggca gttgtgaaa cggaacttaa tataagtgg 240
acctacttat caaacttatac ttctaaaaca actttccact gttgctttt gaggagggaa 300
gataaaaaact gctctgtaca tgcagacaac attgcaggga aggcatggat ttcagcagta 360
aattccttag ttttcaaca aacaggtgca aactggaaaca tacagtgtgc gatgaaagag 420
gacttgaaat tattcatctg ttatatggag tcattattta agaattcctt caagaattat 480
gaccttaaag ttcatctttt atatgttctg ctcgaagtgt tagaaggatc acctctgctc 540
ccccagaaag gtagtttca gagcgttcaa tgcaactgca gtgctcgtga atgttgtgaa 600
tgccatgtgc ctgtgtcgcc agccaaactc aactacaccc ttcttatgtt tttgaaaatc 660
acatctggtg gagcagtttt tcactcacct ctcgtgcag ttcagccat aaacgttgtg 720
aagcctgatc caccattagg tttgcataatg gaaatcacag acactggtaa tttaaagatt 780
tcttggtcca gcccacact ggtaccattt caacttcaat atcaagtaaa atattcagag 840

| | | | | | | |
|------------|------------|-------------|-------------|-------------|-------------|------|
| aattctacaa | caaatacgat | agaagctgat | gagatcgct | cagatacatc | tctgcttgc | 900 |
| gacagtgtgc | ttccgggtc | ttcatatcgat | gttcagggtga | ggggcaagag | actggatggc | 960 |
| ccaggaatct | ggagtgactg | gagcaccccc | tttactttta | ccacacaaga | tgttatatac | 1020 |
| tttccaccta | aaattctgac | aagtgttggg | tctaacattt | ctttcactg | catctataaa | 1080 |
| aatgagaaca | agatcgttc | ctcaaaaaag | attgttttgt | ggatgaattt | agctgagaag | 1140 |
| attcctcaaa | gtcagtatga | tgttgtggg | gaccatgtta | gcaaagtac | ttttccaaat | 1200 |
| atgaatgcaa | ccaaacctcg | aggaaagttc | acctatgtat | cagtgtactg | ctgcaatgag | 1260 |
| cacgagtgcc | accatcgcta | tgctgagtt | tatgtgattt | atgtcaatat | caatatatca | 1320 |
| tgtgaaactg | atgggtactt | aactaaaatg | acttgcagat | ggtcaaccaa | tgcaatccaa | 1380 |
| tcacttgg | gaagcactt | gcagttgagg | tatcatagga | gtacccctcta | ctgttctgac | 1440 |
| gttccatctg | tgcattccat | atctgaaccc | aaagattgcc | agttgcagag | agatggttt | 1500 |
| tatgaatgca | tatttcagcc | aatatttctg | ctatctggct | atacaatgt | gattagaata | 1560 |
| aatcaccgt | tgggttca | tgattctcca | ccaacatgt | tcattcctga | ttccgtggg | 1620 |
| aaaccgctgc | ctccatccag | tgtgaaagca | gaaattactg | caaaaattgg | attactgaaa | 1680 |
| atatcttggg | agaagccagt | cttcccagag | aataatctt | agttccagat | tcgctatgg | 1740 |
| ttaagtggaa | aagaagtaca | gtgaaagatc | tatgaggat | atgacacaaa | gtttaaatcc | 1800 |
| accagtctcc | cgggccaga | cctgttgca | gtctatgct | tccaggtgc | ctgttaagagg | 1860 |
| ctagatggac | tggctattt | gagtaattgg | agtactccag | cctacacagt | tgtcacggat | 1920 |
| gtaaaagttc | ctatcagagg | acctgaattt | tggagaataa | ttaatgaaga | tgccactaaa | 1980 |
| aaagagagga | atatcactt | gctctggaa | cctctgat | aaaatgactc | attgtgcagc | 2040 |
| gtgagaagtt | atgtggtcaa | acatcatact | tcccgccat | gaacatggc | agaagatgt | 2100 |
| ggaaaccaca | ctaaactcac | tttccttgg | acagagcaag | cacattctgt | tacagttct | 2160 |
| gccgtcaatt | caattggtgc | ttcttccgca | aattttaatt | taacattctc | atggcccatt | 2220 |
| agcaaagtaa | atatcgta | gtcgctcagt | gcttacccctt | taaacagcag | ttgtgtggg | 2280 |
| cttcctggc | tgcttcacc | cagtgattac | aatctgatgt | attttattct | tgagtggaaa | 2340 |
| attcttaatg | aagaccatga | aattaaatgg | ctcagaatcc | cttcctctgt | taaaaagtat | 2400 |
| tatatccacg | atcattttat | tcctatttag | aaatatcaat | tcagtcttta | ccccatattc | 2460 |
| atggaaggag | tggggaaacc | gaagataatt | aacagttca | cccaagatgg | tgaaaaacac | 2520 |

| | |
|--|------|
| cggaatgatg caggtctata tgtaattgtg ccaataatta tttcctcttc aatcttattg | 2580 |
| cttggAACAT tgttaatgtc acaccaaaga atgaaaaAGC tattttggA agatgttcca | 2640 |
| aACCCCAAGA actgttcctg ggcacaAGGA cttaatttC agaAGCCGGA aacatttgAG | 2700 |
| catctttta tcaaggACAC agaATCAGTg acatttggCC ctcttcttt ggagcctgAA | 2760 |
| accatttcAG aagatATCAG tGTTGATAcA tCATGGAAA ataaggatGA gatggtgCCA | 2820 |
| ccaactACAG tCTCTCTACT ctTGACAAct ccggACCTTg AAAAGAGTC aatttGTATT | 2880 |
| agtGACCAAC gcAGCAGTGC ccACTTCTCT gaggCTgAgA gcatGGAGAT aactCGTgAG | 2940 |
| gatgAAAATA gaAGACAGCC ctCTATTAAA tatGCCACCC tgCTCAGCAG ccCTAAATCA | 3000 |
| ggTgAAACTg agCAAGAGCA agAACTTGTa agtagCTTgg tcAGCAGATg cttCTCTAGC | 3060 |
| agcaattccc taccgAAAGA gtCTTCTCG aatAGCTCAT gggAGATAGA aACCCAGGCC | 3120 |
| tTTTTATTt tatCAGATCA gcatCCCAAT atGACTTCAC cacACCTTC cttCTCAGAA | 3180 |
| ggattggatg aacttatgaa gtttgaggGA aatttccccA aagaacataa tgacgaaagg | 3240 |
| tctgtCTATT atttaggAGT cacCTCAATC aaaaAGAGAG agAGTgATGT gttttgACT | 3300 |
| gatgAGTCaa gagTgCGGTg cccattCCCA gcccACTgTT tattcgCTgA catCAAATC | 3360 |
| ctCCAGGAGA gCTgTTcaca cttgtAGAA aataATTCA atttaggaAC ttCTGGTCAG | 3420 |
| aAGACTTTG tatCTTACAT gcCTCAATTt caAACTTGTt caACTCAGAC tcAGAAGATA | 3480 |
| atggAAAACA agATGTATGA CCTAACCGTC taAGTTcATT ccAGAAACAT CTCAGATTa | 3540 |
| tGATGGGATG agTCATATTAGGTAATAT gttCTACATG gTgTTCCATA gcAGAGAGAA | 3600 |
| aaaaATTGAG tcaaATTGA aaATGACTTC aaaAGTTAAAG gagATCTGTT tGTCACACT | 3660 |
| cAGTAATACA gaaaaaaaaa TGTGAGAAAG CCTTCAAGAG CCTAGTAATG TAGACCTACT | 3720 |
| cttCTAATGA ttCTCTTAAC CGGCTACAGT gggAAgTTCT cGAATGCCTT gTGTCTAGCT | 3780 |
| agAAAACAAGC ccaACAATAC tagCGTTTG AGCATTAAATC tCATGTAGAA AGAGCTAATC | 3840 |
| catCTGAATT ACACATACAT CTGAAAGAAG ACTTCAGACT AACACTTGTG AAATGTAATG | 3900 |
| tCTTCAAGAG TGTGATTGTT ttATCTTGAG gTGTCTTGT tttACACTAA tttACACATA | 3960 |
| cACATATGCA cACTTGTATC TAATAGGCAc CCTGTACATT GTTAAATATA TGATGTACTT | 4020 |
| gtTTTGTGC taaaaaaaaaaa aaaaaaaaaaaa | 4050 |

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 <211> 1025
 <212> DNA
 <213> Sus scrofa

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<223> N = unknown

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tgagaggaa gtttatttc ctttagctt tgcgtcgta aaatgattac tcctgaggaa      180
atatgaccct acatttgta tttggaaaca gggagtcagt tttattggaa agggatgaga      240
ggggtagaa gaatgtcatg cttagggttg taaaaccttta ttcttggtcc aggatcaccc      300
actggttggg gagtttcatc caagatgtt cactacttga gactaggctt aaaaataaaa      360
ggctgttctt attcctctgg tcaatatgtt gctcatctt aaacaggaac atagggtcc      420
aatangannn ccccagtctt gtatgttactt gtaccttaac ttttgcctt ttctttcttc      480
ttannagctt taacttanna aatattgtca tcttgccttac cctgacnnat gatttatctt      540
catcaatctg ttttagacttg aagtcannngc tcaaattann ttctgnnnntt tcatnnnnnn      600
cnnnnntngn nnnnnnnnnnn nnnagcttgt gtgccaattt nnnnnnnnnnn natgaantac      660
tcnnnnnnnn nnnnnnnnnnn nnngnnnaaa nnnnnnnnnnn nnnncnnncnn nnnnnnnnnnn      720
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nnnnnnnnnn nnnncagnnt natgaannnn nnctanannn nnnncnacttg gacctgggc      900
actattgtgg tctcaggagt tctgttccca ggattcagga attcactaga gtgtacacag      960
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<210> 14
<211> 446
<212> DNA
<213> Sus scrofa

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<220>
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<223> N = unknown

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<400> 14

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| attgcctgcc aatgggtggtg tttaaatttgt gtagaaagact ctgcctaaga gttgcgactt | 120 |
| ttcttgcataat gttttgtatc gtgtattata taacctgaac atcgcttaag agagacatac | 180 |
| accccccggcc ccttgcgcaggc gaggacagca gtgggtctgc cctacgcctt gtccgagttg | 240 |
| ctaataattcc tcaacccctt caccaaccgg tttgggaaac aggattctca cgtagatac | 300 |
| gaaatggtct cgattgagct tttacttttg tatagttcaa caggggtaga gagccatggg | 360 |
| acatggtttt acccctgttc tacccaaatc catatacatg cgnnggnnt taactggnnn | 420 |
| ctactataat tnnnnnntttt cnnnnnt | 446 |

<210> 15
 <211> 770
 <212> DNA
 <213> Sus scrofa

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| gggttagatt catagtacaa ggtctatgtat atatttgc tacaagaagg ttttcttaggc | 120 |
| aacagaatat caaaagaggg gtaaagccta catatcttca gtctaaaaaa tgaagttata | 180 |
| aaactcttag tgtcttaagc tatgtttca acagaccctc tgatatttgg aaaagcagag | 240 |
| gaaaatttgg aagcccactg ttgcaatcaa caggagctac taaaatttta gtctattttt | 300 |
| ttcaactcta tcagttcttt tcttataactc aaatgattat cctggctatt aaataatctc | 360 |
| tttcctccct ccacacaccc gctgccagtg gactctcctt ttatataattt tacttttga | 420 |
| attcaagtct tctatatactt agtacaatgg ccaaaaaaac taagcttct aaggcaccca | 480 |
| agagttagaa ctttcattt cctacttcat atgcaagaaa ttttctctcc ctttgtctac | 540 |
| ttcataagta atgatttagca atgggtaaat atcaaaagag ctaacggtag actatatttt | 600 |
| aggcatggaa taatttccct taatagacat tatccagtag ccccccttta ttggcagnnn | 660 |
| atatgtnnnn ngnnnnctcag tngatgccnn nnncnnnnnn tngtactgaa cgctacatat | 720 |
| gctattcttt nntatacant catanntatg nnnannnnnnn actnacnnnn | 770 |

<210> 16

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<211> 362
<212> DNA
<213> Sus scrofa

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gggaccgtca gtgtgaccaa atcagggcgc cagtgccagc cgtggaattc ccaatatccc      60
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cgcaacccag ggaatcagaa ggaagctccc tggtgcttca cttggatga gaacttaag      180
tccgacctgt gtgacatccc agcatgtgat tcaaaggatt ccaaagagaa gaataaaatg      240
gaaaatcctgt acatactggt gcccagtgtt gccatcccc tggccattgc cttactcttc      300
ttcttcatct gtgtctgtcg caataaccag aagtcgtcct caccggctgt ccagaggcaa      360
cc                                         362

<210> 17
<211> 625
<212> DNA
<213> Sus scrofa

<400> 17
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ccccccattag cgtgactcaa tacaaacttt gcaagtgggg ggaccacgga acccggaagt      180
ctactgctgt gcccgttcta tggcgaggca gctgtaactg gttacgaacc cgtgtggaa      240
atagtatttgc gaaaccttctt ggcagatttc ttacatcgat attcaatatg agctgcgaat      300
catatgctcg tagttaggaa aatgtcagga aaccctgagt gtgcctgctt tgttgacaa      360
agctattttc gagtcatgtt ggaaggcaag ggcattccagc gcctggcatg gaggagaaga      420
ggtagccct gccccccacc ttcccagcct ttttctgaga tggggtaat tcggccttag      480
atgacaagcg ctcaactctg aacaagagac ggccatctca caccgtctca attagtccag      540
gatgtgtgtc agggctgcga gaggtcggag aggaaatgcg gggaaacttgt tcacttcttg      600
ctcagtttgg atcaactgag ctgca                                         625

<210> 18
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic nucleotide

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| <210> 19 | |
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| <220> | |
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| <400> 19 | |
| tccgcagctca tattgaataa cgatgt | 26 |
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| <210> 20 | |
| <211> 19 | |
| <212> DNA | |
| <213> Artificial Sequence | |
| | |
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| <223> Synthetic nucleotide | |
| | |
| <400> 20 | |
| aaggttccaaa tactcttcc | 19 |
| | |
| <210> 21 | |
| <211> 19 | |
| <212> DNA | |
| <213> Artificial Sequence | |
| | |
| <220> | |
| <223> Synthetic nucleotide | |
| | |
| <400> 21 | |
| aaggttccaaa tactatttc | 19 |
| | |
| <210> 22 | |
| <211> 26 | |
| <212> DNA | |
| <213> Artificial Sequence | |
| | |
| <220> | |
| <223> Synthetic nucleotide | |
| | |
| <400> 22 | |
| cagaccctct gatatttgaa aaagca | 26 |
| | |
| <210> 23 | |
| <211> 33 | |
| <212> DNA | |
| <213> Artificial Sequence | |

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| <220> | | |
| <223> Synthetic nucleotide | | |
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| <400> 23 | | |
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| <210> 24 | | |
| <211> 17 | | |
| <212> DNA | | |
| <213> Artificial Sequence | | |
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| <223> Synthetic nucleotide | | |
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| <400> 24 | | |
| acaggagctca taaaat | | 17 |
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| <210> 25 | | |
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| <223> Synthetic nucleotide | | |
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| <400> 25 | | |
| caggagctat taaaat | | 16 |
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| <210> 26 | | |
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| ctagggatct attttcact ttgttaagtt catt | | 34 |
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| <212> DNA | | |
| <213> Sus scrofa | | |

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<222> (103)..(103)
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tggcagattt cttacatcggt tattcaatat gagctgcgaa tcataatgctc gtagtttagga      180
aaatgtcagg aaaccccgag tgtgcctgct ttgtttgaca aagctatttt cgagtcatgt      240
tggaaaggcaa gggcatccag cgcctggcat ggaggagaag aggtagcccc tgccccccac      300
cttcccagcc tttttctgag atgttggtaa ttcggtccta gatgacaagc gctcaactct      360
gaacaaggga cggccgtctc acaccgtctc aattagtcca ggatgt      406

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<220>
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caacagaccc tctgatattt ggaaaagcag aggaaaattt ggaagccccac tggcaatc      180
aacaggagct antaaaattt tagtctattt tttcaactct atcagttctt ttcttatact      240
caaatgatta tcctggctat taaataatct ctccctccc tccacacacc cgctgccagt      300
ggactctcct ttttatattt ttacttttg aattcaagtc ttctatatct tagtacaatg      360
gccaaaaaaaaa ctaagtttc taaggcaccc aagag      395

<210> 44
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<212> DNA
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<400> 44
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| tctttagtt aagtgtacct taacttttg cttcttcctt cttcttagga gctttaactt | 120 |
| aggaaaatcta tcacatctgtt aaccctgaca aatgatttat ctcatcaat ctgtttaaac | 180 |
| ttgaagtcag aggctcaaata tattttctgt ttttcataa agttcagatt ttgagagact | 240 |
| ggtagcagc ttgtgtgcc aatthaaggcc tttaaatgaa atactcaaaa ttctagattt | 300 |
| atcctaagtt taaaattgca aacctataact tcagctccac tctcccttca aatttttcta | 360 |
| cagaacctct gcaaagatag ggagactatc tgaccatacc aaagtataaa acattctaag | 420 |
| acaaccgaaa tggcagataa ttttcataaa grccactaa tctctagtc tatatagagt | 480 |
| gaaatgaact tacaaaagtg aaaaatagat ccctagcaca ctgaccttaa aactgatcta | 540 |
| aatccataca tcaataggcc agacttggag ttcccatcat ggcacagtgg ttaaagaacc | 600 |
| cgactaggaa tcacatcagggtt gcaggtaa tccctggcct tgctcagtgg gttaagaatc | 660 |
| cagcattgct gtgagctgtg gtgttaggtcg cagacgtggc tcagattcca cggtgctgtg | 720 |
| gctctggcgt aggcgggagg ctacagctct gattagaccc ctcgcctaata atgccagggg | 780 |
| tgcaaaaaat cgcctaataat gccatgggtg cagccctaga aaagacaaaa aaaaaaaaaa | 838 |